

REMARKS

Reconsideration and allowance of the present application in view of the foregoing amendments and following remarks are respectfully requested.

Currently, claims 20-22, 24, 25, 30, 50-55, 57, 58, 61-68, 70-73 and 75-79 remain pending in the present application, including independent claims 20, 50, 51, 52 and 75. Claim 70 has been amended in order to correct a typographical error.

In the latest Office Action, claims 61 and 62 were indicated as being indefinite. Reconsideration is respectfully requested. Applicant submits that the terms “dielectric material” and “conductive material” are not only described with examples in the specification but are also terms familiar to those skilled in the art. Thus, Applicant believes that claims 61 and 62 meet all of the requirements of 35 U.S.C. § 112.

In the Office Action, all of the claims were rejected in view of various prior art references under 35 U.S.C. § 103. The prior art references include Nishizawa, Dautartas, Moore, Dimeao, Kirlin, Parsons, Singh, Thakur, Gates, Utsumi, and Murota. As now amended, it is believed that the claims patentably define over each of the above identified prior art either alone or in combination.

For example, claims 20, 50 and 51 have all been amended to require that the process for forming a layer includes the steps of heating a semiconductor wafer in a thermal processing chamber by placing a thermal heating device adjacent to the wafer. The thermal heating device can be, for instance, an electric resistance heater. Claim 20 requires that the wafer be heated to a temperature of at least about 300°C. While being heated, a precursor fluid is pulsed into the reaction chamber.

As now amended, claims 20, 50 and 51 also require that the reaction chamber be purged by flowing an inert gas through the reaction chamber after each pulse. After selected pulses, the solid layer is also annealed by exposing the solid layer to thermal light energy. During formation of a layer, the claims require that the solid layer be annealed multiple times.

None of the above cited prior art, on the other hand, discloses a process in which a wafer is heated by a thermal heating device during pulsing of a precursor fluid, wherein after each pulse the processing chamber is purged with an inert gas, and wherein the layer

is annealed with thermal light energy multiple times during formation of a layer. As such, it is believed that claims 20, 50 and 51 patentably define over the prior art of record.

The Examiner's attention is also directed to claim 52. Claim 52 is also directed to a process for forming layers. According to claim 52, a precursor fluid is pulsed into a reaction chamber. The precursor fluid is exposed to thermal light energy in the reaction chamber simultaneous with each pulse. The light energy causes the precursor fluid to convert into a solid layer.

As now amended, claim 52 further requires that after each pulse of the precursor fluid, the amount of thermal light energy is decreased and the reaction chamber is purged with an inert gas. The inert gas cools the solid layer and substantially removes any of the precursor fluid not converted into a solid from the chamber.

Newly added claim 75 further requires that between selected pulses of the precursor fluid and after cooling, the solid layer is annealed by exposing the solid layer to thermal light energy prior to the next pulse.

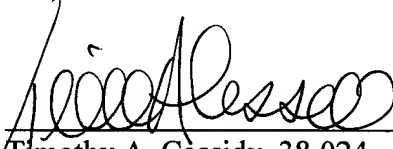
Applicant submits that none of the prior art cited in the latest Office Action discloses or suggests a process as defined in claims 52 and 75. As such, it is believed that claims 52 and 75 are also in complete condition for allowance.

In summary, it is respectfully submitted that the present application is in condition for allowance and favorable action, therefore, is respectfully requested. Should any issues remain after consideration of this Amendment, however, then Examiner Markham is invited and encouraged to telephone the undersigned at his convenience.

Respectfully submitted,

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Date

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Timothy A. Cassidy, 38,024
DORITY & MANNING, P.A.

P.O. Box 1449
Greenville, SC 29602
(864) 271-1592
(864) 233-7342